



ENERGY AND ENVIRONMENT CABINET

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Governor

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Leonard K. Peters
Secretary

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Teri Crosby-Vega
USEPA Region 4
Atlanta Federal Center 9T25
61 Forsyth Street SW
Atlanta, GA 30303

Dear Teri:

I have appreciated our conversations regarding "Interim" status and the current trends in OB/OD disposal technology for conventional munitions. I appreciate all the interest you and your region is taking in this important issue. I went through my electronic files related to OB/OD activities and had a few papers and presentations that I feel are most relevant to our current focus on that treatment technology.

Of particular interest are reference materials that address: emissions measurement and development of accurate emission factors and alternative technologies. I included a few reference papers relevant to those topics. I also included the original (and dated work) work that was published in 1998 that is not applicable for covered (buried) detonations of munitions where the contaminated soil cover dramatically increases the particulate emissions.

Please find enclosed the following files:

1. Emission Factors for the Disposal of Energetic Materials by Open Burning and Open Detonation (OB/OD) by Mitchell and Suggs; August 1998
2. FINAL REPORT – Feasibility of New Technology to Comprehensively Characterize Air Emissions from Full Scale Open Burning and Open Detonation – SERDP Project WP-1672, SERDP –DOD-EPA-DOE, December 2010.
3. Optical Remote Sensing To Quantify Fugitive Particulate Mass Emissions from Stationary Short-Term and Mobil Continuous Sources: Part I Method and Examples, Du et.al, Environ. Sci. Technol. 2011, 45, 658-665.

4. Optical Remote Sensing to Quantify Fugitive Particulate Mass Emissions from Stationary Short-Term and Mobile Continuous Sources: Part II Field Applications, Du et. al., *Environ. Sci. Technol.* **2011**, 45, 666-672.
5. Open Burning and Open Detonation PM₁₀ Mass Emission Factor Measurements with Optical Remote Sensing; Paper 2012-A-61-AWMA, Yuen et. al., Presented at the Annual Conference of the Air & Waste Management Association in San Antonio, **2012**.
6. Explosion Dust Particle Size Measurements by Pinnick, Fernandez and Hinds; Published in *Applied Optics*, January 1, 1983.
7. EPA Technical Fact Sheet – Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX) – May 2012
8. Residues from Live Fire Detonations of 155-mm Howitzer Rounds, Wash et.al.; US Army Corps of Engineers – Engineer Research and Development Center, July 2005
9. Explosives Residues Resulting from the Detonation of Common Military Munitions: 2002-2006 by Michael Wash, US Army Corps of Engineers – Engineer Research and Development Center, February 2007
10. DA VINCH Solutions “Proven, Safe and Thorough” – A slide presentation.
11. “Destruction of Chemical Weapons, Chemical Compound Munitions and Missiles by DAVINCH Detonation System – A slide presentation.
12. Mobile System DAVINCH – A slide presentation.

Please do not hesitate to contact me by email at george.partridge@ky.gov or by phone (502) 564-6716 Ext, 4651 if you have any questions or I can be of further assistance.

Sincerely,



George P. Partridge Jr.
Solid Waste Branch
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Enclosure: CD with files

CC: Heather Alexander, KDEP-DWM-HWB